IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A method of describing object region data about an object in a video over a plurality of frames, ~~said~~ the method comprising:

extracting an object from each of the frames;

approximating the object of each of the frames using ~~a figure~~ one of predetermined figures defined by representative points for each of ~~said~~ the frames;

extracting ~~a plurality of~~ the representative points of ~~representing~~ the figure for each of ~~said~~ the frames, one of the representative points being a reference point represented by a coordinate value and one of the remaining representative points being represented by a relative position data with reference to the reference point;

approximating a first trajectory ~~trajectories~~ with a first function ~~functions~~, the first trajectory ~~trajectories~~ being obtained by arranging, in the frames advancing direction, ~~reference~~ position data about ~~one of said plurality of points~~ the reference point ~~in each of said frames and relative position data about remaining points in each of said frames, the relative position data referring to the reference position data in the same frame~~; ~~and~~

approximating a second trajectory with a second function, the second trajectory being obtained by arranging, in the frames advancing direction, the relative position data about the one of the remaining points with reference to the reference point; and

describing the object region data using the first and second functions ~~function~~.

Claim 2 (Original): The method according to claim 1, wherein said object region data comprises information representing a range of frames in which the object exists in the video data and information identifying the figure approximating the object region.

Claim 3 (Original): The method according to claim 1, wherein said object region data comprises one of information representing related information linking to the object and information representing a method of accessing the related information.

Claim 4 (Currently Amended): The method according to claim 1, wherein said relative position data are components of differential vectors between the one of ~~said plurality of~~ the representative points and remaining of the representative points.

Claim 5 (Original): The method according to claim 1, wherein said object region data comprises parameters of the functions.

Claim 6 (Currently Amended): A method of describing object region data about an object in video data over a plurality of frames, ~~said~~ the method comprising:

extracting an object from each of the frames;

approximating the object of each of the frames using ~~a figure~~ one of predetermined figures defined by representative points for each of ~~said~~ the frames;

extracting ~~a plurality of~~ the representative points ~~representing~~ of the figure for each of ~~said~~ the frames, one of the representative points being a reference point represented by a coordinate value and one of the remaining representative points being represented by a relative position data with reference to the reference point;

approximating ~~trajectories~~ a first trajectory with ~~functions~~ a first function, the ~~trajectories~~ first trajectory being obtained by arranging, in the frames advancing direction, ~~reference~~ position data about the reference point; ~~said plurality of points in a predetermined frame and relative position data about said plurality of points in a succeeding frame, the relative position data referring to the reference position data in the same frame; and~~

approximating a second trajectory with a second function, the second trajectory being obtained by arranging, in the frames advancing direction, the relative position data about the one of the remaining points with reference to the reference point; and

describing the object region data using the first and second functions.

Claim 7 (Original): The method according to claim 6, wherein said object region data comprises information representing a range of frames in which the object exists in the video data and information identifying the figure approximating the object region.

Claim 8 (Original): The method according to claim 6, wherein said object region data comprises one of information representing related information linking to the object and information representing a method of accessing the related information.

Claim 9 (Currently Amended): The method according to claim 6, wherein said relative position data are components of differential vectors between ~~said plurality of~~ the representative points in the predetermined frame and ~~said plurality of~~ the representative points in the succeeding frame.

Claim 10 (Original): The method according to claim 6, wherein said object region data comprises parameters of the functions.

Claim 11 (Currently Amended): A method of describing object region data about an object in video data over a plurality of frames, ~~said~~ the method comprising:

extracting an object from each of the frames;

approximating the object of each of the frames using ~~a figure~~ one of predetermined figures defined by representative points for each of ~~said~~ the frames;

extracting ~~a plurality of~~ the representative points ~~representing~~ of the figure for each of ~~said~~ the frames, one of the representative points being a reference point represented by a coordinate value and one of the remaining representative points being represented by a relative position data with reference to the reference point;

approximating ~~trajectories~~ a first trajectory with ~~functions~~ a first function, the ~~trajectories~~ first trajectory being obtained by arranging, in the frames advancing direction, data indicating a position ~~positions~~ of ~~said plurality of~~ the reference point ~~points~~; ~~and~~

approximating a second trajectory with a second function, the second trajectory being obtained by arranging, in the frames advancing direction, the relative position data about the one of the remaining points with reference to the reference point; and

describing the object region data using the first and second functions and depth information of the object.

Claim 12 (Original): The method according to claim 11, wherein said object region data comprises information representing a range of frames in which the object exists in the video data and information identifying the figure approximating the object region.

Claim 13 (Original): The method according to claim 11, wherein said object region data comprises one of information representing related information linking to the object and information representing a method of accessing the related information.

Claim 14 (Original): The method according to claim 11, wherein said object region data is described by using the depth information of the object and parameters of the functions.

Claim 15 (Original): The method according to claim 11, wherein said depth information is a relative depth and has a discrete level value.

Claim 16 (Currently Amended): A method of describing object region data about an object in video data over a plurality of frames, ~~said~~ the method comprising:

extracting an object from each of the frames;

approximating the object of each of the frames using ~~a figure~~ one of predetermined figures defined by representative points for each of ~~said~~ the frames;

extracting ~~a plurality of~~ the representative points ~~representing~~ of the figure for each of ~~said~~ the frames, one of the representative points being a reference point represented by a coordinate value and one of the remaining representative points being represented by a relative position data with reference to the reference point;

approximating ~~trajectories~~ a first trajectory with ~~functions~~ a first function, the ~~trajectories~~ first trajectory being obtained by arranging, in the frames advancing direction, data indicating a position ~~positions~~ of ~~said plurality of~~ the reference point ~~points~~; ~~and~~

approximating a second trajectory with a second function, the second trajectory being obtained by arranging, in the frames advancing direction, the relative position data about the one of the remaining points with reference to the reference point; and

describing the object region data using the first and second functions and display flag information indicating a range of frames in which the object or each of ~~said~~ the representative points is visible or not.

Claim 17 (Original): The method according to claim 16, wherein said object region data comprises information representing a range of frames in which the object exists in the video data and information identifying the figure approximating the object region.

Claim 18 (Original): The method according to claim 16, wherein said object region data comprises one of information representing related information linking to the object and information representing a method of accessing the related information.

Claim 19 (Original): The method according to claim 16, wherein said object region data is described by using the display flag information and parameters of the functions.

Claim 20 (Currently Amended): A method of describing object region data about an object in video data over a plurality of frames, ~~said~~ the method comprising:

extracting an object from each of the frames;

approximating the object of each of the frames using ~~a figure~~ one of predetermined figures defined by representative points for each of ~~said~~ the frames;

extracting ~~a plurality of~~ the representative points ~~representing~~ of the figure for each of ~~said~~ the frames, one of the representative points being a reference point represented by a coordinate value and one of the remaining representative points being represented by a relative position data with reference to the reference point;

approximating ~~trajectories~~ a first trajectory with ~~functions~~ a first function, the ~~trajectories~~ first trajectory being obtained by arranging, in the frames advancing direction, data indicating a position ~~positions~~ of ~~said plurality of~~ the reference point ~~points~~; ~~and~~

approximating a second trajectory with a second function, the second trajectory being obtained by arranging, in the frames advancing direction, the relative position data about the one of the remaining points with reference to the reference point; and

describing the object region data using the first and second functions and object passing range information indicating a range where the figure approximating the object exist over said plurality of frames.

Claim 21 (Original): The method according to claim 20, wherein said object region data comprises information representing a range of frames in which the object exists in the video data and information identifying the figure approximating the object region.

Claim 22 (Original): The method according to claim 20, wherein said object region data comprises one of information representing related information linking to the object and information representing a method of accessing the related information.

Claim 23 (Original): The method according to claim 20, wherein said object region data is described by using the object passing range information and parameters of the functions.

Claim 24 (Currently Amended): A method of describing object region data about an object moving in a panorama image formed by combining a plurality of frames with being overlapped, ~~said~~ the method comprising:

extracting an object from each of the frames;

approximating the object of each of the frames in the panorama image using ~~a figure~~ one of predetermined figures defined by representative points for each of the frames;

extracting ~~a plurality of~~ the representative points ~~representing~~ of the figure in a coordinate system of the panorama image, one of the representative points being a reference point represented by a coordinate value and one of the remaining representative points being represented by a relative position data with reference to the reference point;

approximating ~~trajectories~~ a first trajectory with ~~functions~~ a first function, the ~~trajectories~~ first trajectory being obtained by arranging, in the frames advancing direction, data indicating ~~positions~~ a position of ~~said plurality of~~ the reference point ~~points~~; ~~and~~

approximating a second trajectory with a second function, the second trajectory being obtained by arranging, in the frames advancing direction, the relative position data about the one of the remaining points with reference to the reference point; and

describing the object region data using the first and second functions.

Claim 25 (Original): The method according to claim 24, wherein said object region data comprises information representing a range of frames in which the object exists in the video data and information identifying the figure approximating the object region.

Claim 26 (Original): The method according to claim 24, wherein said object region data comprises one of information representing related information linking to the object and information representing a method of accessing the related information.

Claim 27 (Original): The method according to claim 24, wherein said object region data comprises parameters of the functions.

Claim 28 (Currently Amended): An article of manufacture comprising a computer usable medium having computer readable program code means embodied therein and for

describing object region data about an object in video data over a plurality of frames, the computer readable program code means comprising:

computer readable program code means for extracting an object from each of the frames;

computer readable program code means for approximating the object of each of the frames using ~~a figure~~ one of predetermined figures defined by representative points for each of ~~said~~ the frames;

computer readable program code means for extracting ~~a plurality of~~ the representative points ~~representing~~ of the figure for each of ~~said~~ the frames, one of the representative points being a reference point represented by a coordinate value and one of the remaining representative points being represented by a relative position data with reference to the reference point;

computer readable program code means for approximating ~~trajectories~~ a first trajectory with ~~functions~~ a first function, the ~~trajectories~~ first trajectory being obtained by arranging, in the frames advancing direction, position data about ~~one of said plurality of~~ the reference point; ~~points and relative position data about remaining points with reference to said one of said plurality of points; and~~

computer readable program code means for approximating a second trajectory with a second function, the second trajectory being obtained by arranging, in the frames advancing direction, the relative position data about the one of the remaining points with reference to the reference point; and

computer readable program code means for describing the object region data using the first and second functions.

Claim 29 (Currently Amended): An article of manufacture comprising a computer usable medium having computer readable program code means embodied therein and for describing object region data about an object in video data over a plurality of frames, the computer readable program code means comprising:

computer readable program code means for extracting an object from each of the frames;

computer readable program code means for approximating the object of each of the frames using ~~a figure~~ one of predetermined figures defined by representative points for each of ~~said~~ the frames;

computer readable program code means for extracting ~~a plurality of~~ the representative points ~~representing~~ of the figure for each of ~~said~~ the frames, one of the representative points being a reference point represented by a coordinate value and one of the remaining representative points being represented by a relative position data with reference to the reference point;

computer readable program code means for approximating ~~trajectories~~ a first trajectory with ~~functions~~ a first function, the ~~trajectories~~ first trajectory being obtained by arranging, in the frames advancing direction, position data about ~~said plurality of~~ the reference point; ~~points in a reference frame and relative position data about said plurality of points in a succeeding frame with reference to the position data about said plurality of points in the reference frame; and~~

computer readable program code means for approximating a second trajectory with a second function, the second trajectory being obtained by arranging, in the frames advancing direction, the relative position data about the one of the remaining points with reference to the reference point; and

computer readable program code means for describing the object region data using the first and second functions.

Claim 30 (Currently Amended): An article of manufacture comprising:

computer readable program code means for extracting an object from each of the frames;

computer readable program code means for approximating the object of each of the frames using ~~a figure~~ one of predetermined figures defined by representative points for each of ~~said~~ the frames;

computer readable program code means for extracting ~~a plurality of~~ the representative points ~~representing~~ of the figure for each of ~~said~~ the frames, one of the representative points being a reference point represented by a coordinate value and one of the remaining representative points being represented by a relative position data with reference to the reference point;

computer readable program code means for approximating ~~trajectories~~ a first trajectory with ~~functions~~ a first function, the ~~trajectories~~ first trajectory being obtained by arranging, in the frames advancing direction, data indicating ~~positions~~ a position of ~~said plurality of points~~ the reference point; ~~and~~

computer readable program code means for approximating a second trajectory with a second function, the second trajectory being obtained by arranging, in the frames advancing direction, the relative position data about the one of the remaining points with reference to the reference point; and

computer readable program code means for describing the object region data using the first and second functions and depth information of the object.

Claim 31 (Currently Amended): An article of manufacture comprising a computer usable medium having computer readable program code means embodied therein and for describing object region data about an object in video data over a plurality of frames, the computer readable program code means comprising:

computer readable program code means for extracting an object from each of the frames;

computer readable program code means for approximating the object using ~~a figure~~ one of predetermined figures defined by representative points for each of ~~said~~ the frames;

computer readable program code means for extracting ~~a plurality of~~ the representative points ~~representing~~ of the figure for each of ~~said~~ the frames, one of the representative points being a reference point represented by a coordinate value and one of the remaining representative points being represented by a relative position data with reference to the reference point;

computer readable program code means for approximating ~~trajectories~~ a first trajectory with ~~functions~~ a first function, the ~~trajectories~~ first trajectory being obtained by arranging, in the frames advancing direction, data indicating ~~positions~~ a position of ~~said plurality of points~~ the reference point; ~~and~~

computer readable program code means for approximating a second trajectory with a second function, the second trajectory being obtained by arranging, in the frames advancing direction, the relative position data about the one of the remaining points with reference to the reference point; and

computer readable program code means for describing the object region data using the first and second functions and display flag information indicating a range of frames in which the object or each of said points is visible or not.

Claim 32 (Currently Amended): An article of manufacture comprising a computer usable medium having computer readable program code means embodied therein and for describing object region data about an object in video data over a plurality of frames, the computer readable program code means comprising:

computer readable program code means for extracting an object from each of the frames;

computer readable program code means for approximating the object of each of the frames using ~~a figure~~ one of predetermined figures defined by representative points for each of ~~said~~ the frames;

computer readable program code means for extracting ~~a plurality of~~ the representative points ~~representing~~ of the figure for each of ~~said~~ the frames, one of the representative points being a reference point represented by a coordinate value and one of the remaining representative points being represented by a relative position data with reference to the reference point;

computer readable program code means for approximating ~~trajectories~~ a first trajectory with ~~functions~~ a first function, the ~~trajectories~~ first trajectory being obtained by arranging, in the frames advancing direction, data indicating a position ~~positions~~ of ~~said plurality of points~~ the reference point; ~~and~~

computer readable program code means for approximating a second trajectory with a second function, the second trajectory being obtained by arranging, in the frames advancing direction, the relative position data about the one of the remaining points with reference to the reference point; and

computer readable program code means for describing the object region data using the first and second functions and object passing range information indicating a range where the figure approximating the object exist over said plurality of frames.

Claim 33 (Currently Amended): An article of manufacture comprising a computer usable medium having computer readable program code means embodied therein and for describing object region data about an object moving in a panorama image formed by combining a plurality of frames with being overlapped, the computer readable program code means comprising:

computer readable program code means for extracting an object from each of the frames;

computer readable program code means for approximating the object of each of the frames in the panorama image ~~using a figure~~ using one of predetermined figures defined by representative points for each of the figures;

computer readable program code means for extracting ~~a plurality of~~ the representative points ~~representing~~ of the figure in a coordinate system of the panorama image, one of the representative points being a reference point represented by a coordinate value and one of the remaining representative points being represented by a relative position data with reference to the reference point;

computer readable program code means for approximating ~~trajectories~~ a first trajectory with ~~functions~~ a first function, the ~~trajectories~~ first trajectory being obtained by arranging, in the frames advancing direction, data indicating a position ~~positions~~ of ~~said plurality of points~~ the reference point; ~~and~~

computer readable program code means for approximating a second trajectory with a second function, the second trajectory being obtained by arranging, in the frames advancing direction, the relative position data about the one of the remaining points with reference to the reference point; and

computer readable program code means for describing the object region data using the first and second functions.

Claim 34 (Currently Amended): A computer data signal embodied in a carrier wave, the computer data signal capable of describing object region data about an object in video data over a plurality of frames, the computer data signal comprising:

computer readable program code means for extracting an object from each of the frames;

program code portion for causing a computer to approximate the object of each of the frames using ~~a figure~~ one of predetermined figures defined by representative points for each of ~~said~~ the frames;

program code portion for causing a computer to extract ~~a plurality of~~ the representative points ~~representing~~ of the figure for each of ~~said~~ the frames, one of the representative points being a reference point represented by a coordinate value and one of the remaining representative points being represented by a relative position data with reference to the reference point;

program code portion for causing a computer to approximate ~~trajectories~~ a first trajectory with ~~functions~~ a first function, the ~~trajectories~~ first trajectory being obtained by arranging, in the frames advancing direction, position data about ~~one of said plurality of points~~ the reference point and relative position data about the remaining representative points with reference to ~~said~~ the reference point ~~one of said plurality of points~~; ~~and~~

computer readable program code means for approximating a second trajectory with a second function, the second trajectory being obtained by arranging, in the frames advancing direction, the relative position data about the one of the remaining points with reference to the reference point; and

program code portion for causing a computer to describe the object region data using the first and second functions.

Claim 35 (Currently Amended): A computer data signal embodied in a carrier wave, the computer data signal capable of describing object region data about an object in video data over a plurality of frames, the computer data signal comprising:

computer readable program code means for extracting an object from each of the frames;

program code portion for causing a computer to approximate the object of each of the frames using ~~a figure~~ one of predetermined figures defined by representative points for each of ~~said~~ the frames;

program code portion for causing a computer to extract ~~a plurality of~~ the representative points ~~representing~~ of the figure for each of ~~said~~ the frames, one of the representative points being a reference point represented by a coordinate value and one of the remaining representative points being represented by a relative position data with reference to the reference point;

program code portion for causing a computer to approximate ~~trajectories~~ a first trajectory with ~~functions~~ a first function, the ~~trajectories~~ first trajectory being obtained by arranging, in the frames advancing direction, position data about ~~said plurality of points~~ the reference point in a reference frame and relative position data about ~~said plurality of~~ the remaining representative points in a succeeding frame with reference to the position data about ~~said plurality of points~~ the reference point in the reference frame; ~~and~~

computer readable program code means for approximating a second trajectory with a second function, the second trajectory being obtained by arranging, in the frames advancing

direction, the relative position data about the one of the remaining points with reference to the reference point; and

program code portion for causing a computer to describe the object region data using the functions.

Claim 36 (Currently Amended): A computer data signal embodied in a carrier wave, the computer data signal capable of describing object region data about an object in video data over a plurality of frames, the computer data signal comprising:

computer readable program code means for extracting an object from each of the frames;

program code portion for causing a computer to approximate the object of each of the frames using ~~a figure~~ one of predetermined figures defined by representative points for each of ~~said~~ the frames;

program code portion for causing a computer to extract ~~a plurality of~~ the representative points ~~representing~~ of the figure for each of ~~said~~ the frames, one of the representative points being a reference point represented by a coordinate value and one of the remaining representative points being represented by a relative position data with reference to the reference point;

program code portion for causing a computer to approximate ~~trajectories~~ a first trajectory with ~~functions~~ a first function, the ~~trajectories~~ first trajectory being obtained by arranging, in the frames advancing direction, data indicating a position ~~positions~~ of ~~said plurality of points~~ the reference point; ~~and~~

computer readable program code means for approximating a second trajectory with a second function, the second trajectory being obtained by arranging, in the frames advancing

direction, the relative position data about the one of the remaining points with reference to the reference point; and

program code portion for causing a computer to describe the object region data using the first and second functions and depth information of the object.

Claim 37 (Currently Amended): A computer data signal embodied in a carrier wave, the computer data signal capable of describing object region data about an object in video data over a plurality of frames, the computer data signal comprising:

computer readable program code means for extracting an object from each of the frames;

program code portion for causing a computer to approximate the object of each of the frames using ~~a figure~~ one of predetermined figures defined by representative points for each of ~~said~~ the frames;

program code portion for causing a computer to extract ~~a plurality of~~ the representative points ~~representing~~ of the figure for each of ~~said~~ the frames, one of the representative points being a reference point represented by a coordinate value and one of the remaining representative points being represented by a relative position data with reference to the reference point;

program code portion for causing a computer to approximate ~~trajectories~~ a first trajectory with ~~functions~~ a first function, the ~~trajectories~~ trajectory being obtained by arranging, in the frames advancing direction, data indicating ~~positions~~ a position of ~~said plurality of points~~ the reference point; ~~and~~

computer readable program code means for approximating a second trajectory with a second function, the second trajectory being obtained by arranging, in the frames advancing

direction, the relative position data about the one of the remaining points with reference to the reference point; and

program code portion for causing a computer to describe the object region data using the first and second functions and display flag information indicating a range of frames in which the object or each of ~~said~~ the representative points is visible or not.

Claim 38 (Currently Amended): A computer data signal embodied in a carrier wave, the computer data signal capable of describing object region data about an object in video data over a plurality of frames, the computer data signal comprising:

computer readable program code means for extracting an object from each of the frames;

program code portion for causing a computer to approximate the object of each of the frames using ~~a figure~~ one of predetermined figures defined by representative points for each of ~~said~~ the frames;

program code portion for causing a computer to extract ~~a plurality of~~ the representative points ~~representing~~ of the figure for each of ~~said~~ the frames, one of the representative points being a reference point represented by a coordinate value and one of the remaining representative points being represented by a relative position data with reference to the reference point;

program code portion for causing a computer to approximate ~~trajectories~~ a first trajectory with ~~functions~~ a first function, the ~~trajectories~~ trajectory being obtained by arranging, in the frames advancing direction, data indicating ~~positions~~ a position of ~~said plurality of point~~ the reference point; ~~and~~

computer readable program code means for approximating a second trajectory with a second function, the second trajectory being obtained by arranging, in the frames advancing

direction, the relative position data about the one of the remaining points with reference to the reference point; and

program code portion for causing a computer to describe the object region data using the first and second functions and object passing range information indicating a range where the figure approximating the object exist over said plurality of frames.

Claim 39 (Currently Amended): A computer data signal embodied in a carrier wave, the computer data signal capable of describing object region data about an object moving in a panorama image formed by combining a plurality of frames with being overlapped, the computer data signal comprising:

computer readable program code means for extracting an object from each of the frames;

program code portion for causing a computer to approximate the object of each of the frames in the panorama image using ~~a figure~~ one of predetermined figures defined by representative points for each of the frames;

program code portion for causing a computer to extract ~~a plurality of~~ the representative points ~~representing~~ of the figure in a coordinate system of the panorama image, one of the representative points being a reference point represented by a coordinate value and one of the remaining representative points being represented by a relative position data with reference to the reference point;

program code portion for causing a computer to approximate ~~trajectories~~ a first trajectory with ~~functions~~ a first function, the ~~trajectories~~ first trajectory being obtained by arranging, in the frames advancing direction, data indicating a position ~~positions~~ of ~~said plurality of points~~ the reference point; ~~and~~

computer readable program code means for approximating a second trajectory with a second function, the second trajectory being obtained by arranging, in the frames advancing direction, the relative position data about the one of the remaining points with reference to the reference point; and

program code portion for causing a computer to describe the object region data using the first and second functions.